

## CLAIMS

- 1    1. A sound system for a motor vehicle comprising a control unit, a first input unit to  
2    operate the system, a display unit, at least one unit to generate source data that includes sound  
3    data, an amplifier unit to amplify the source data, at least one loudspeaker, a bus to link the  
4    individual units and to assure transmission of source data and control data to control the units  
5    between the individual units that are distributed over the vehicle, and at least one system unit,  
6    different from the control unit and having an associated memory in which the functional scope  
7    of this unit is stored, such that this functional scope can be transmitted over the bus, and the  
8    transmitted functional scope can be drawn upon at least partially to form the functional scope  
9    of the entire system, wherein said sound system further comprises at least one more input unit  
10   (3a) wherein the input units (3, 3a) have a memory (12) in which is stored a priority value for  
11   each of the input units (3, 3a), that the input units (3, 3a) are apt to conduct their priority value  
12   to the other units (2, 3, 4, 5, 6, 10, 11) via the bus (8), that the units (3, 4, 5, 6, 10, 11) of the  
13   system (1), other than the control unit (2), together with their associated memories (9) are apt  
14   to form the transmitted functional scope in dependence on their priority value and to conduct  
15   the formed and transmitted functional scope, via the bus (8), to the input unit (3, 3a) with an  
16   appropriate priority value, and that this input unit (3, 3a) with this priority value is apt to draw  
17   upon the transmitted functional scopes, formed in accordance with their priority value, to form  
18   its functional scope.
  
- 1    2. The sound system of claim 1, wherein at least one of said input units (3, 3a) comprises  
2    a keyboard through which said priority value can be entered.

1       3.     The sound system of claim 1, wherein said control unit (2) automatically assigns a  
2     specific priority value to each of the input units (3, 3a).

1       4.     The sound system of claim 1, wherein the memory (9) associated with the unit (3, 4, 5,  
2     3a, 6, 11) for the functional scope of the unit (3, 3a, 4, 6, 11) is part of this unit.

1       5.     The sound system of claim 4, wherein the control unit (2), an input unit (3, 3a), and the  
2     display unit (4) are linked with one another in such a way that the operating menus needed to  
3     operate the system (1) are displayed by the display unit (4) in accordance with the functional  
4     scope of the input unit (3, 3a), and the system (1) is operated via inputs to the input unit (3,  
5     3a), using the displays in the display unit (4).

1       6.     The sound system of claim 5, wherein the control unit (2), an input unit (3, 3a) and the  
2     display unit (4) are located within a unit.

1       7.     The sound system of claim 1, wherein said source data comprises multimedia data.

1       8.     The sound system of preceding Claims 1 to 7, for a motor vehicle, characterized in that  
2     the system (1) is designed so that turning on the entire sound system (1) or an individual unit  
3     (2, 3, 3a, 4, 5, 6, 7, 10, 11) triggers the formation of the functional scopes of the individual  
4     input units (3, 3a) from the functional scopes of the individual units.

1       9.     The sound system of claim 7, one of the preceding claims, for a motor vehicle,  
2     characterized in that the output of the functional scope of the entire system (1) and/or of  
3     individual and/or of all the units (2, 3, 3a, 4, 5, 6, 7, 10, 11) through the display unit (4) can  
4     be invoked by means of an input unit (3, 3a).

1       10.    The sound system of claim 7, wherein the formation of the functional scopes of the  
2     input units (3, 3a) from the functional scopes of the individual units can be invoked by means  
3     of an input unit (3, 3a).

1       11.    Use of the sound system for a motor vehicle, of one of the preceding claims, in an RV,  
2     a house, or an apartment.

1       12.    A method of specifying the functional scope of a first sound system input unit, which  
2     cooperates with at least a second sound system input unit to control multimedia data generating  
3     units that communicate with the first and second sound system input units over a system bus,  
4     said method comprising the step of:

5              sending a control signal containing a priority value from the first sound system input  
6     unit to the multimedia data generating units over the system bus;

7              receiving, from each of the multimedia data generating units, functional scope data  
8     indicative of the authority the first sound generating input unit has over the associated  
9     multimedia data generating unit; and

10       configuring a display unit of the first sound system input unit to display control  
11      information that is indicative of the function scope that the first sound generating input unit has  
12      been assigned.

1       13.     The method of claim 12, further comprising the steps of:  
2           receiving said plurality value, which is a numerical value that is input by a user through  
3          an input interface of said first sound system input unit; and  
4           storing said priority value in a memory device associated with the first sound system  
5          input unit.

1       14.     The method of claim 12, further comprising the steps of:  
2           receiving said plurality value from a unit for generating said priority value; and  
3           storing said priority value in a memory device associated with the first sound system  
4          input unit.

1       15.     The method of claim 12, wherein said steps of sending, receiving and configuring are  
2          performed in the event the sound system is turned on, additional multimedia data generating  
3          units are added or removed from the unit, or the priority value is changed.

1       16.     The method of claim 15, wherein a control unit (2) supplies data to the first sound  
2          system input unit and to the display unit in correspondence with the functional scope of the  
3          first sound system input unit, and the first sound system input unit receives command inputs

4 regarding the functional scope of the input unit including command inputs associated with  
5 volume, bass, treble, fade and balance.

1 17. The method of claim 15, wherein a control unit (2) supplies control data to the first  
2 sound system input unit and to the display unit in correspondence with the functional scope of  
3 the first sound system input unit, and the first sound system input unit receives command  
4 inputs regarding the functional scope of the input unit including command inputs associated  
5 with the functions of play, track jump, repeat, fast forward, rewind, tuning, band change,  
6 silencing, activating/deactivating traffic messages, starting the seek function, and  
7 activating/deactivating RDS functions.

1 18. A vehicle sound system that provides an audio signal to a speaker system, comprising:  
2 a first input unit that receives a first priority value indicative of the scope of authority  
3 that said first input unit has been assigned over the motor vehicle sound system;  
4 a second input unit that receives a second priority value indicative of the scope of  
5 authority said second input unit has been assigned over said motor vehicle sound system;  
6 a system bus; and  
7 a plurality of sound system generating components each capable of communicating with  
8 said first and second input unit over said system bus and being selectively controlled by said  
9 first and second input units via said system bus.

1 19. The sound system of claim 18, wherein said first input unit comprises an input interface  
2 that allows a user to specify said first priority value.

1       20. The sound system of claim 18, further comprising means for automatically providing  
2       said first priority value and said second priority value.

1       21. The sound system of claim 18, wherein said first input unit comprises a display that  
2       presents information indicative of the scope of functions that may be controlled from said first  
3       input unit, for instance scope of functions is determined by said first priority value.

1       22. The sound system of claim 18, wherein said first input unit transmits said first priority  
2       value onto said system bus and said plurality of sound system generating component respond to  
3       said first input unit with their functional scope data that is associated with said first priority  
4       value.

1       23. The sound system of claim 22, wherein said second input unit transmits said second  
2       priority value onto said system bus and said plurality of sound system generating component to  
3       respond to said second input unit with their functional scope data associated with said second  
4       priority value.

1       24. The sound system of claim 22, wherein said first unit comprises a memory device that  
2       stores said first priority code and stores said functional scope data associated with said first  
3       priority value.

1    25. A motor vehicle multimedia sound system that provides audio signals to a speaker, said  
2    sound system comprising:

3                a plurality of input units that each receive a uniquely associated priority value indicative  
4    of the scope of authority each of said input units has been assigned over the motor vehicle  
5    sound system; and

6                a system bus; and

7                a plurality of audio generating components each capable of communicating with said  
8    plurality of input units over said system bus and being selectively controlled by said plurality  
9    of input units.